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ABSTRACT

Mount Saint Vincent University (Nova Scotia), in cooperation with the Atlantic Satellite Network, has been involved in offering credit courses using videoteleconferencing since 1983. Distance University Education via Television (DUET) is a unique use of videoteleconferencing which complements the need for current information and for the involvement of distance students in university courses, the need for employers to support development of their staff through availability of these courses over satellite, and the need for the university to provide distance education in a way that complements its aims and structure. In addition to being a logical way to bring faculty and students together electronically, videoteleconferencing has the capability to provide a spontaneous, responsive experience for distance students. Faculty are the key to DUET. For faculty preparation and support, a DUET faculty manual, development sessions, troubleshooting meetings, and user-friendly facilities design are provided. DUET is well accepted by students and their employers, and students taking DUET courses have performed better than their on-campus counterparts. Videoconferencing has helped the university to respond immediately in several ways because the approach makes use of existing organizational structures and educational formats, and because new course offerings can be developed with a minimum expenditure. A 23-item bibliography is included. (Author/MES)

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Abstract

Mount Saint Vincent University in cooperation with Atlantic Satellite Network has been involved in offering credit courses over Anik C-III using videoteleconferencing for over a year now. This is a unique use of videoteleconferencing which compliments the need for current information and for involvement of distance students in university courses, the need for employers to support development of their staff through availability of these courses over satellite, and the need of Mount Saint Vincent University to provide distance education in a way which compliments the aims and structure of the university.

There are an ocean of possibilities afforded by each new technology to fill a variety of needs. With each new development comes a concept regarding its application and which will influence further development of that technology. Possibilities for development of the technology are governed by two opposing forces: first, a belief that the uses of technology can significantly alter society, industry, education, etc., if given the chance, and secondly, by the parameters set by our own previous experiences with related technologies and assumptions regarding their use. We see this around us daily. Many times, I can securely say, we make plans and delineate methods for technological change assuming given ideas regarding the technology are correct when in fact they may not necessarily be appropriate or may not recognize all the possibilities which the technology may afford society.

There is no doubt that certain assumptions about the applications of high technology are coloring plans made for the use of these technologies. There are those who make statements which color videoconferencing as unmanagable as a tool for everyday business: that the cost of videoconferencing over satellite is too high to consider, that certain standards must be upheld to insure "quality", that only certain content is "suitable" for "broadcasting." These are all arguments which are readily countered if one has the facts and weighs the use of videoconferencing against the needs of the user organization. One must ask who are the guardians of quality, who are setting the standards, and finally are these standards being upheld in the best interests of perpetuating the growth of this technology? Many (Blake (3), Feasley(7), Carl(6)) have questioned the role of production experts in defining who shall use television for education and how. There is no question that the same production expertise which has guided the character of educational television is now influencing the development of videoconferencing in education with the very real possibility of turning it into an elitist medium as well. These people have caught themselves and us in a set of assumptions which are inappropriate for higher education's use of technologies, have resulted in extra unnecessary costs for developing and producing courses, and have failed to capture the dynamic quality of the professor cum scholar which is the heart of the university. We have, in effect, been trapped into believing that quality has to cost money. Getting caught by these arguments is tantamount to putting one's organization in the same bind as a number of companies going down the tubes because they cling to outdated concepts and assumptions. Peter Drucker (2) pointed out at a recent meeting of the President's Association that it is essential for management to look at new alternatives to solving problems. This means not relying on what experts tell you is a "correct use of a technology" but to encourage members of your organization to explore new options and not be bound by traditional assumptions.

I can't begin to relate to you the number of conferences I have been to and papers I have seen in which it is very obvious that the assumptions underlying commercial broadcast television have dominated the videoconference presentation with alarming results. For example, one producer of videoconferences over satellite insisted that all telephone calls coming into the conference be screened so that only the most interesting were put on the air (this was a closed circuit internal conference). Another insisted that each conference be moderated by a "TV personality" who was capable of "keeping the show moving." Still another insisted that sets be constructed and that participants wear make-up.

These have potentially negative effects in promoting satellite videoconferences as a routine service. Broadcast television may resemble videoconferencing but has different functions, audiences, and outcomes. Adherence to television-based assumptions in videoconferencing should be accepted only if it can be shown that the assumption is central to the intended outcomes of the conference.

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When we began DUET our mandate was to unite the university, distant students, and industry using high technology so that the resources of the university could be more readily accessible to industry for professional development. This was then and is now the basis for the Mount's use of videoconferencing. The university has much to offer businesses in helping them develop their human resource potential but barriers have existed which have not enabled the university to do this as well as it was able. For example, it is costly to send a number of employees to campus for extended periods to complete degree programs; as well, it is also costly and ineffective to bring faculty or experts to the workplace to conduct educational sessions. Videoconferencing was a logical way to bring faculty and students together electronically.

Other elements influenced our decision to use videoconferencing to deliver university credit courses. We could have elected to use videotapes, computer-based instruction, and correspondence packages. But these did not lend themselves to the kind of interaction which characterizes a university education. We know from learning paradigms that interaction is necessary for a student to learn well and that passive learners easily become bored learners. But more than that, there is another important dimension which affected our decision. Professors at university are living scholars who are constantly aware of the most current information available on a subject and who should be able to be spontaneous in addressing student needs for dialogue, and for verbal and visual responses to their questions. This is the kind of experience we felt characterized a university level education and the kind of experience we wanted distance students to have. Scott said,

> "He who learns from one occupied in learning drinks from a running stream. He who learns from one who has learned all he has to teach drinks the green mantel of the stagnant pool." (21)

Recorded materials, be they tape or print, and lax professors fall into this category. But how easy it is to translate the spontaneity of the scholastic experience on campus, to have it alive to the student as it occurs and to incorporate the questioning process between student and professor using videoconferencing.

The Mount also found videoconferencing a means to mesh the existing university structure with high technology. Many universities have had difficulty responding effectively to the need for distance education using their existing organizational structures. It is not unusual to find separate departments responsible for administering correspondence and other distance courses separate from other campus departments and apart from the usual channels for on-campus course development. The centralization of this course development process in departments of continuing education or departments of instructional design with responsibility for course design resting with individuals other than the immediate faculty member is a normal occurence. These additional structures result in additional and questionable costs to the university including added remuneration to the faculty involved because the course is regarded as an addition to their regular on-campus duties. The additional preparations and approvals needed before a course can be mounted remove the faculty member's authority, responsibility, and initiative in developing and administering the course and reduce the course to instruction rather than education. Inhibitors such as these are inherent presently in some forms of distance education technologies and affect the level of involvement of faculty.

In developing DUET the Mount did not want to fall into the same costly and inefficient methods as had some others. We committed ourselves to melding technology with the existing organizational structures of the university with minimal reallocation of resources.

Faculty are the key to DUET. DUET staff work very closely with faculty to insure they understand DUET is THEIR system for distance education. DUET is a distance teaching tool in the same way the overhead projector is a teaching tool. The system should be as easy and effective to use as possible. In all respects DUET has to be as user-friendly to faculty as possible. This is our prime consideration.

This is not to say that we thought then or think now that the university professor who is capable in the classroom is automatically capable of using DUET. But we do believe that within the frameworks they have established the elements do exist which are solid bases for the provision of distance education.

What remains is for faculty to learn how they can use videoconferencing effectively in teaching at a distance. This is accomplished in four primary ways:
- through a simple, user-friendly room and facilities design,
- through faculty development sessions
- through a DUET faculty manual
- through periodic troubleshooting meetings.

When a professor walks into a DUET classroom s/he sees a classroom with video accessories rather than a TV studio with grids, lights, and sets. Lighting is just slightly brighter than a normal classroom, there are lecturns and chalkboards and student desks. Although the classroom physically has four walls, professors soon recognize that those walls are only an illusion. The real width and breadth of the classroom hits home with the first interaction with the distant unseen student who can be hundreds of miles away.

Prior to teaching on DUET each faculty member goes through a special workshop in which s/he is given the opportunity to experience the capabilities of the equipment, try teaching methods, and consult with DUET staff on how some of the on-campus experiences can be maximized in a distance mode. The atmosphere is intentionally playful at these sessions. We encourage faculty to play with the equipment and to experiment freely. If you go through the literature on diffusion of a technology or listen to novices you will recognize a great deal of negative rhetoric discusses how to get people to accept new technologies or overcome barriers. Each time I see these I shutter because of the coercive message behind the words. I am reminded of the saying "You can lead a horse to water but you can't make 'em drink." This is very true with technology. If there is fear attached to using a technology one only creates more problems in forcing the situation. But one can allow people the opportunity to play, to enjoy, to experience the technology on their own terms and to find what it can do for their own needs and wants. Moreover, we let them experience videoconferencing from the point of view of the distance student in a simulated receiving centre. In this simulated centre they see and participate in learning experiences originating from the DUET classroom in the same way as do distance students: seeing the visuals on the tv screen, talking with other students in the room, and participating via the telephone lines. This is a very important segment of the workshop because it completes the professor's knowledge of how learning occurs using videoconferencing and settles questions about the acceptability of these presentations for their educational purposes.

Our approach is far from new. IBM has used this kind of approach in developing new products. Employees are encouraged to "play" with innovations and to talk with design engineers. This "play" leads to more user-friendly designs and changes in features to make the innovations more attractive. We have never ceased to be amazed at the new ideas faculty have for using DUET once they have become exposed to the facilities. We provide the basic instruction but the INVENT the new applications for using videoconferencing for education.

DUET is well accepted. We transmit twelve hours of education per week on Anik C III to the entire Atlantic region and have had participants from Nova Scotia, Prince Edward Island, New Brunswick, Newfoundland, Labrador, and even Quebec in addition to those who receive our basic cable videoconference service in the Halifax Metro Region. As we enter our second year of satellite transmission we are increasing our course offerings by 50% because of the acceptance of DUET by employers and employees taking DUET courses. Over 90% of those taking DUET courses are upwardly mobile females with family committments. For them DUET is an opportunity to complete a university education and to keep work and home commitments, and moreover, to gain the support of the employer in getting an education. For employers it has become an opportunity to easily and inexpensively support part-time study by making rooms and equipment available to take courses, by giving employees release time to participate during work hours, and by paying tuition. Other staff have been supportive by acting as proctors for exams taken on the premises.

Students taking DUET courses have perfomed better than their on-campus counterparts. To our surprise on-campus students enrolled in the same course have risen to the challenge of their distant peers. The result has been an increase in the overall class average in a DUET course.

This was also a first for ATV, parent of the Atlantic Satellite Network. As part of their service proposal to CRTC ASN agreed to provide 20 hours per week for education. Through this the Mount was

able to have access to Anik C III. ATV had never worked with a source such as DUET before to provide live, unedited programs, and frankly, there were some concerns. We worked closely, received much support from ASN staff to insure an acceptable signal strength and quality and to prepare for any problems. That we are entering our second year working with ASN is in itself a statement that this is indeed workable as well as an innovative arrangement.

Selection of courses delivered using satellite videoconferencing is based on problems we have experienced in providing given courses at distant locations. For example, the Mount's Gerontology Program until DUET existed called upon professors to travel several weekends per semester to provide intensive workshops on weekends. With DUET a rational schedule can be maintained using the normal on-campus offering and more locations can be reached simultaneously. Other courses in demand from Mount Saint Vincent but which are difficult to offer at a distance are possible on DUET. Our Women's Studies program and Word Processing Concepts course have become available over satellite to all sectors of the Atlantic Region having access to ASN. Dalhousie School of Nursing will begin this year offering courses in its B.N. program using DUET. The Atlantic School of Theology will start its second year using DUET to provide continuing education for clergy throughout the Atlantic Region. The representatives of various tourism and hospitality industries across the Atlantic Region will be offering non-credit courses in hospitality and look to DUET to provide credit courses in a proposed Tourism and Hospitality Program to be launched within the year.

Existing university accounting procedures, library and registrarial policies can be applied to DUET students with a minimum of added work.

In total, using videoconferencing over satellite has helped the university to respond immediately 'n several ways:
- more of our existing allocated resources can be immediately channeled into videoconferencing because our approach makes use of existing organizational structures without need for a major shift in resources
- the basic existing educational format for on-campus education is the basis for videoconferencing
- the Mount assumes that videoconferencing as opposed to television is readily acceptable to our distant student population (evaluations have reinforced this thinking)
- technologies are being used to solve existing problems in providing distance education rather than being employed for the sake of using a technology
- more professors are learning the capabilities of high technologies for their own functions and becoming "producers" of their own course, being aware of the attributes of these technologies and their potential applications for their on-campus and distance education activities
- we are able to respond with new course offerings for satellite with minimum course development expenditure.

Our course development costs are markedly lower than those of our counterparts in other universities because of the piggybacking approach we use. Compare our distance development costs of $7,600 per semester to the costs of university A which has development costs at $75,000 or university B at $30,000 per semester. Mount Saint Vincent could no sooner be involved in these expensive efforts than take a trip to the moon. But we are more able to take a trip to a satellite because our development costs are lower. We have been very fortunate that satellite time has been provided free of charge by the Atlantic Satellite Network for our courses. We still wrestle with the costs of a satellite channel. Yet, in terms of the added cost of preparing courses, our approach has put us well ahead of the game.

So what of assumptions and technologies? Of satellites and education? There is no doubt that Mount Saint Vincent University is operating on some fairly hefty assumptions. But we have questioned assumptions regarding the use of videoconferencing relative to the university's need to provide distance education. We try to be aware of our operating assumptions and to develop our use of satellite videoconferencing and other technologies for education based on these articulated assumptions. We want to go into this exciting venture with our eyes wide open, listening to our own needs and the needs of our potential student body, and learning about what new technologies can do for us rather than listening to the tales of other technocrats.

There are indeed oceans of possibilities regarding the use of satellites for education. But each organization

tantalized by the possibilities should recognize that the standards, procedures, and decision to use a technology should rest with the focus of that organization and while advice from technocrats and experts such as myself should be sought, the final decision about the character of the use of the technologies should rest with a knowledge of the structure of the organization and of its goals. And with that, the possibilities are truly endless.

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